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ABSTRACT

This document praises the Comprehensive Preschool Education and Child Day-Care Act and advocates an equally comprehensive collateral program of research and evaluation. In order to avoid delay in starting preschool and child care programs, the research undertaken should be of the kind called evaluative research in which program and research are in progress simultaneously. The research model is therefore integrated into the program and focuses on process as well as product measures. Although traditional research has followed an engineering model, the research associated with these preschool programs should follow a medical model. The implications of a medical model include assessment of both intended and possible outcomes, and frequent monitoring of participants' feelings and program processes. An example of such research is the Head Start longitudinal study of disadvantaged children being carried on by Educational Testing Service. Included is a description of some of the problems encountered in this project. (MH)

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A Statement On The Comprehensive Preschool Education and Child Day-Care Act of 1969 Before the Select Subcommittee on Education of the House Committee on Education and Labor

March 3, 1970

Samuel Messick*

I welcome the opportunity to comment on the "Comprehensive Preschool Education and Child Day-Care Act of 1969" and will particularly emphasize the need for a correspondingly comprehensive collateral program of research and evaluation in connection with this effort.

The comprehensiveness of the proposed programs is a major strength of the Act, for it properly recognizes--by including provision for physical and mental health services, food and nutritional services, educational activities, special programs, and social services to improve home environments and to ensure parental involvement--that we are dealing in the area of human development with a complicated system composed of many interdependent elements. A child's intellectual functioning is not independent of his personal-social and affective functioning nor of the state of his physical well-being. Furthermore, the factors influencing individual growth and development are also multiple and overlapping, embracing not only school, teacher, and program influences but family, peer, and community influences as well. The comprehensiveness of the Act affirms this interrelatedness of personal, social, environmental, and educational factors in the development of human potential.

Because the child-process-environment interactions addressed by the proposed program of educational, health, and social services is complex and

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little understood and because we do not yet have adequate knowledge to develop optimal procedures for implementation, it is imperative that intensive programs of research be undertaken to increase our understanding of human development and of methods for enhancing it. However, this should not be taken to indicate, as some have argued, that comprehensive action programs should be postponed until we are better prepared. There is an alternative strategy, and that is to undertake what has come to be called evaluative research.

With this strategy, we would go ahead and develop the program using the best available knowledge and ideas--or, better still, develop several options incorporating various alternative approaches--and then we would proceed to carry out the program and research simultaneously. This would be accomplished by including within the administration of the program provision for collecting information relevant to its evaluation and improvement. It is sometimes even possible to embed the evaluative research directly into the program itself by capitalizing upon certain kinds of information, such as measures of educational progress, for both instructional and research purposes.

It is important, however, that the scope of the evaluative research match the comprehensiveness of the program concerns and deal in a meaningful way with the complexity of interacting influences affecting child behavior and development. To do this requires a substantial change in approach from the traditional evaluation study of the past, which typically cast the problem as a kind of "horse race": The research question asked was of the form, "Is this program or treatment more effective than that one or more effective than no

program at all?" This is akin to "brand name" or "product" testing, where the major concern is with demonstrated differences in outcome.

But if the research is to contribute to the improvement of the program, it must focus not only upon product but upon process, and it must ask different and more complicated kinds of questions. For example, answers to the "horse race" type of question are usually sought by comparing average gains in specific achievement for children receiving one treatment with average gains for children receiving a second treatment. But suppose treatment 1 is better for certain kinds of children (as a function, say, of their attitudes or interests or cognitive styles) and treatment 2 better for other kinds of children. Depending upon the mix of children in the two groups, the two treatments might exhibit negligible differences on the average, whereas, actually, they produce wildly different effects upon individuals. A completely different evaluation and understanding of the treatments might have resulted if some other question had been asked, such as "Do these treatments interact with personality and intellectual characteristics of the children or with factors in their educational history or family background to produce different effects upon performance? What dimensions of educational experience are associated with growth on dimensions of cognitive functioning or with changes in attitude or affective involvement, and what social and environmental factors moderate the impact?" Rather than asking what program works best, we should be asking what procedures work best for what kinds of children under what kinds of circumstances.

The traditional approach to program evaluation might be said to follow a

manufacturing or engineering model, where attention is focussed upon differences in outcome or product, or upon input-output differences relative to cost. The approach advocated here might be said to follow a medical model and there are several important consequences of this conception.

To begin with, there is the recognition that a prescription for treatment and the evaluation of its effectiveness should take into account not only the reported symptoms but other aspects of the organism and its ecology as well. This is essentially another affirmation of the need to deal empirically in evaluative research with the interrelatedness of psychological, social, environmental, and educational factors.

Another derivative of the medical model is a concern for monitoring possible side effects of the treatment. This also follows naturally from the recognition that we are dealing with a complex system composed of interdependent parts and that a change in one part of the system may produce unanticipated and possibly adverse consequences in another part of the system. Because of this possibility, it is not enough to evaluate a program solely in terms of its stated goals, on the basis of how well it achieves its intended objectives. In addition to the intended outcomes, we should also assess a wide range of possible outcomes, for we might unearth in the process some alternatives that ought to be weighed in reaching a final appraisal of program impact.

Another implication of this medical analogy is that feelings and reactions of the program participants should be assessed periodically throughout the course of the treatment and not just at the beginning and the end. This

assessment should include, as is the custom in medical practice, a monitoring of attitudes toward the treatment itself.

And, of course, underlying the entire metaphor is the notion that whenever possible in the evaluation of educational programs, as in the evaluation of drugs, we should go beyond a simple assessment of the size of effects to an investigation of the processes that produce the effects, for an understanding of these processes will provide a rational basis for improving the program, for changing programs if conditions change, and for isolating possible danger zones where potential side effects should be monitored.

In this view, then, evaluative research should focus not only upon the outcomes of the program but also upon the process and context of the program. In addition, it is probably wise to extend the range of the research even further in time. As in a medical case study, measures of antecedent conditions should be included, as well as follow-up measures of the consequences both of the treatment and of the termination of treatment. For these purposes, the scope of measurement must be broad enough both to ensure adequate coverage of potentially interactive variables and to permit the monitoring of possible side effects of the treatment. If possible, measures should be included to assess not only characteristics of the learners but also of their learning environments (including the home and community as well as the classroom and school), and of the educational and treatment processes at all levels (including characteristics of teachers, programs, and classroom dynamics). In this latter connection, it is particularly important to assess characteristics of the program as it is actually carried out, since the program as practiced is sometimes

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quite different from the program as planned.

It might be helpful at this point to describe an instance of this type of evaluative research, although the example chosen is on a much more massive scale than most evaluative research efforts. It is the "Longitudinal Study of Disadvantaged Children and Their First School Experiences," an evaluative research study of Head Start programs being conducted by Educational Testing Service under the auspices of the HEW Office of Child Development and the Office of Economic Opportunity.

Field operations for the study were initiated in the summer of 1968, after a year of planning and instrument development. The Head Start centers selected for investigation were in four localities: St. Louis, Missouri; Trenton, New Jersey; Portland, Oregon; and Lee County, Alabama.

To identify subjects for the study, target elementary schools were first located within these four sites. Then their sending districts were determined and canvassed to identify every child who will be eligible for enrollment in first grade in the Fall of 1971. This turned out to be a sample of close to 1800 children. At the same time, an assessment battery was developed that would provide base-line information on the important dimensions of cognitive/intellectual and personal/social functioning.

The schools were chosen in areas in which a high proportion of children are eligible for Head Start. Since Head Start is a voluntary program, not all of the eligible children will participate and, in any event, the available Head Start facilities in these areas would very likely not handle all of them. Hence, the sub-samples of interest will form naturally--some children will go

to Head Start classes and some will not. It is anticipated that about half of the subjects will have Head Start experience. In the Spring of 1970, all of the subjects will be reassessed, as they will each succeeding year until they are in third grade. For those children attending Head Start classes it is planned to observe classroom dynamics and to assess the nature of the programs through direct observation of actual classroom operations--not merely by looking at the prospectus for the program or at intentions of the teachers.

A physical examination of the child will also be included periodically. In addition, the family will be interviewed each year, not only to ascertain the usual socioeconomic status characteristics but also to assess family process variables, such as child-rearing attitudes and practices. Family information will be obtained through interviews, through some tests of the parents, and through observation. Characteristics of the community and the school will also be assessed as well as characteristics of the classroom and the program, the latter being obtained through direct classroom observation. Teacher characteristics will be assayed through interviews and tests.

One of the major problems that had to be faced in this study was one of feasibility--was it possible to go into these communities, some of which were ghetto communities, and actually collect the data? The researchers would have to be welcome in these neighborhoods for a six-year period, were asking for a sizeable contribution of time and effort from families, and were going to try to set up centers to assess 3 1/2-year-old children. The logistics of this, as might be imagined, are extremely complicated.

Another problem of feasibility was whether or not it would be possible,

in any sensible length of time, to assess the important characterisitics of children this young. An assessment battery was assembled which required upwards of 6 hours to administer, and there was some concern as to whether such intensive testing was possible with a 3 1/2-year-old child. As it turns out, this is not an undue burden for the child--what we view as 6 hours of testing is evidently seen by the child as six hours of one-to-one contact with an interested and attentive adult. The six hours of testing is spread over a five-day week, during which the child attends the center for three hours a day, so there is ample opportunity for rest and for play activities. One hour of this testing includes a parent-child interaction task that has been very meaningful in assessing the language characteristics and teaching styles of the mother.

Another serious problem that had to be faced was how to find and train appropriate people to do the assessment of the children. It was feared that even if it were possible to locate sufficient numbers of college-level personnel, such as undergraduate or graduate students, who would be available to work full-time during a two or three month period in the Spring, it would probably not be feasible to send them into these communities to try and collect the data. We were struck by the open resentment of community people to the idea of being studied by "outsiders" and were becoming increasingly sensitive to their legitimate concerns about what was in it for them. The staff then hit upon the notion of hiring and training indigenous mothers and housewives within the study communities to serve as testers for the three-and-a-half-year old children. Although training people with this background to administer the assessment batteries took almost twice as long as the three or four

weeks originally anticipated, the approach did turn out to be a viable one. These indigenous community people displayed an impressive degree of intrinsic interest and motivation in learning the tasks, and this experience in training and testing has produced some remarkable positive changes in their self-concepts and aspirations.

The Longitudinal Study of Disadvantaged Children is both an evaluation study of preschool programs and a basic research study of child development. It illustrates the power and the promise of evaluative research. It shows that, properly carried out with appropriate assessment of the multiple interacting factors that influence learning, the evaluation of educational programs <u>is</u> research on educational process.

It is therefore recommended that Section 10 of the Comprehensive Preschool Education and Child Day-Care Act be amended to include specific provisions for research and evaluation not only as groundwork for, or as an adjunct to, but as an integral on-going part of the programs of services proposed. This might be accomplished by requiring that some of the funds for individual programs be reserved for purposes of evaluation, as was done in some of the titles of the Elementary and Secondary Education Act. This would make it possible to undertake evaluative research as an integral part of on-going programs, to gather information useful for purposes of program improvement and understanding as well as for purposes of accountability. Since evaluative research to some extent represents a bridge between basic research and program development, it not only offers a mechanism for continuous program renewal and improvement, but also an important opportunity to advance social science as well as the social welfare.

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He has served on the Editorial Board of Child Development and several other professional journals and has edited several books, including Problems in Human Assessment and Measurement in Personality and Cognition.